UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,797	09/12/2003	David D. Goodman	112152.131US1	6152

24395 7590 04/04/2005

WILMER CUTLER PICKERING HALE AND DORR LLP
THE WILLARD OFFICE BUILDING
1455 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20004

EXAMINER	
BRINEY III, WALTER F	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/660,797	GOODMAN, DAVID D.	
	Examiner	Art Unit	
	Walter F Briney III	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. **Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (US Patent Application Publication 2002/0188790) in view of Goodman (US Patent 6,192,399).**

Claim 1 is limited to *a method for communicating over a single pair twisted conductive path*. Park discloses an apparatus for converting either 8-line or 4-line Ethernet into 2-line Ethernet. See Abstract. Figure 3 depicts the system overview. Two 8-line/4-line Ethernet devices (210) and (220) form a transmission channel by way of paths (250) and (260). Converters (230) and (240) convert the signals on paths (250) and (260), respectively, to yield a two-wire transmission channel (270). In an alternative embodiment, one of the converters (230) or (240) is replaced with an analog converter depicted in figure 8. Clearly, the analog converter requires fewer components and less power than the converters since it doesn't include any type of buffering logic. See paragraphs 66-67. With particular respect to the claim, the analog converter depicted in figure 8 is capable of replacing the *connection between said first point of connection and said transmit port to said connection between said first point of connection and said receive port*, as evidenced by the high-impedance state initiated by detectors (810) and (840). Furthermore, the position of the detectors indicates that the receiving amplifier is

only capable of blocking the transmission amplifier during times when no data is being transmitted and data is being received from the transmission path (270), which inherently results in reception and transmission of signals during non-overlapping segments of time. In addition, non-overlapping transmission and receiving is a hallmark of Ethernet communication. Park discloses that the system disclosed therein is intended to be implemented over ordinary and existing two-wire telephone lines (see paragraphs 4-7), however, it is clear from figure 3 that the system disclosed by Park does not anticipate *presenting a high-impedance to ordinary telephonic device frequencies during reception and transmission*, nor is there any mention of *receiving and transmitting ordinary telephonic signals using the conductive path* (270) *while presenting a high-impedance to non-telephonic device frequencies*.

While the above cited Park reference provides means to transmit Ethernet signals over a single two-wire twisted pair, the system of Park completely monopolizes the twisted pair for Ethernet transmission, not allowing other signals to be transmitted at the same time. Goodman teaches a twisted pair communication system. See Abstract. Goodman identifies the above limitation of Park (see column 2, lines 24-33 and column 4, lines 8-9) and seeks to unify the transmission of a plurality of communication standards over a single twisted pair (see column 4, lines 10-15), clearly reducing the cost overhead of laying diverse infrastructure for each transmission standard. Figures 9 and 10 of Goodman clearly depict the network structure. As can be seen from figure 10, Goodman takes advantage of frequency multiplexing in order to provide simultaneous transmission over a single twisted pair (810). It follows that the system

disclosed by Park can be expanded to include transmission of several protocols over the single transmission channel (270) by providing a plurality of frequency selective filters within the front end of each converter, i.e. one filter for one of the digital converters (230) or (240) and another filter for the analog converter of figure 8. In addition, all ordinary telephone signals will be received and transmitted through a LPF (1020) as seen in figure 10 of Goodman.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate frequency selective filters as taught by Goodman within the transmission system of Park for the purpose of increasing the amount of communication protocols that can be simultaneously supported by a single unshielded twisted pair within a customer premises, which reduces cost of installation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SINH TRAN
SUPERVISORY PATENT EXAMINER

WFB
3/30/05